

1930

Management of farm woodlands in Louisiana

Gordon Dotter Marckworth

Follow this and additional works at: <http://digitalcommons.lsu.edu/agexp>

Recommended Citation

Marckworth, Gordon Dotter, "Management of farm woodlands in Louisiana" (1930). *LSU Agricultural Experiment Station Reports*. 721.
<http://digitalcommons.lsu.edu/agexp/721>

This Article is brought to you for free and open access by the LSU AgCenter at LSU Digital Commons. It has been accepted for inclusion in LSU Agricultural Experiment Station Reports by an authorized administrator of LSU Digital Commons. For more information, please contact gcoste1@lsu.edu.

APRIL, 1930.

LOUISIANA BULLETIN No. 209.

MANAGEMENT OF FARM WOODLANDS IN LOUISIANA

BY

GORDON D. MARCKWORTH
Head, Department of Forestry

AND

ROBERT MOORE
Extension Forester



LOUISIANA STATE UNIVERSITY
AND
AGRICULTURAL AND MECHANICAL COLLEGE
AGRICULTURAL EXPERIMENT STATIONS

C. T. DOWELL, Dean and Director

ACKNOWLEDGMENT

In the preparation of this bulletin we wish to acknowledge the help given by former State Forester W. R. Hine and the field force of the Louisiana Division of Forestry, the County Agents of the Agricultural Extension Service of Louisiana State University, officials of various lumber companies, and the many farmers who cooperated in giving information on local conditions.

We also wish to acknowledge our sincere appreciation of the assistance given by the Yale Forest School in furnishing complete field notes on over 150 sample plots of typical loblolly and short-leaf pine stands in central and northern Louisiana. A large number of these plot records, together with those collected by the authors in various parts of the state, were used in the preparation of the yield tables.

FOREWORD

The need for timber on the farm is self evident. In every farm operation timber is used in some form. All farm buildings from the farm home to the chicken house are most economically and quickly constructed with lumber and timber. The best and most economical fence is one built with wooden posts. If these posts are creosoted, the fence is built of the most durable of all the available fencing materials.

Louisiana contains large areas of land which are not adapted to farming. It is land that is at present too poor to repay the costs of cultivation. The Business Men's Commission on Agriculture in 1927 stated: "Men have been induced to settle upon land which, under existing conditions, offers no reasonable prospect of a decent living. Such crops as they raise are a constant drag on an inelastic market." Forestry offers a profitable use for such lands.

We can grow timber faster than most states and as fast as any. It is one of the few crops that is not being overplanted. In fact, the United States is cutting its timber four times as fast as it grows. We can hardly find a better assurance of a stable market than this wide spread between consumption and production. Our farmers are hardly in position to refuse the opportunity that forestry offers to add to their cash income.

It is to assist farmers in their forestry practices that this bulletin is presented. It contains no theories, but practical suggestions that are the result of experience and study. Its suggestions have been put in practice on large areas of timber land with profit to the owners and the material contained here is the result of a study of these areas.

MANAGEMENT OF FARM WOODLANDS IN LOUISIANA

BY

GORDON D. MARCKWORTH

Head, Department of Forestry

AND

ROBERT MOORE

Extension Forester

INTRODUCTION

Since the time of the first settlers, Louisiana has been blessed with an abundance of timber. For years we have been cutting without thought for the future. Today we are faced with the probability of securing our timber from the Pacific Coast with high freight rates, *unless* we take steps to conserve and develop our forests. Many progressive lumber men of the state are caring for their timberlands and looking toward the future.

But what of the farmer? So far he has given little thought or care to his forest lands and yet he owns 15% of the timberland of the state, totaling nearly two and a half million acres. In addition, over half a million acres of farm land are lying idle that could well be reforested, making a total of three million acres of potential timberland. This area is equal to the combined acreage of Caddo, Bienville, Bossier, Claiborne, Webster, and Union Parishes. Such a large area certainly should be given careful and thoughtful consideration.

This bulletin concerns itself particularly with farm woodlands in the shaded areas shown on the accompanying map. The general conclusions and recommendations may also be applied to the long-leaf and slash pine areas. The hardwood areas will also profit by the observation of care in handling along the general principles laid down in this bulletin.



FIGURE I.—Shaded Portion Shows Area Considered In The Bulletin.

The region is one in which natural reforestation is obtained with least trouble. It presents the least difficulty in respect to fire prevention as it is an area that is well cut up by roads and small farms. Labor conditions are also good, and farmers can use their farm labor during periods when the demands of the farm are lightest.

SPECIES

The Loblolly Pine (*Pinus taeda* L.) and the Shortleaf Pine (*Pinus echinata* Mill.) are the species best adapted to the farm woodland. The former is particularly well suited by reason of its rapid growth, as it grows faster than any of the southern pines. These pines are also desirable because of their adaptability to a variety of sites, the wide range of uses to which their wood can be put and the certainty of demands constantly increasing in variety. This insures competitive markets which tend to raise the level of prices offered for the products of the farm woodland.

YIELDS

The yields to be expected from typical farm woodlands vary within wide limits depending on the fertility of the soil, available moisture, temperature, and other factors of site. In this bulletin three site classes are recognized: good, medium, and poor. While these site classes are difficult to determine accurately by casual observation, the owner can determine them on the basis of soil fertility and the thriftiness of the trees. As given in the tables, good sites are those where rapid height growth and thrifty trees are found and where the soil is of good quality. Poor sites are those where growth is slow and trees do not look thrifty, and where the soil is poor. Medium sites are average sites lying between these two extremes. The yield for each site class in boardfeet and cords is shown below. For example a thirty year old stand will contain 21,000 boardfeet on a good site, 15,300 on a medium site, and 10,400 boardfeet on a poor site (Table I) or 46, 37, and 36

cords on good, medium, and poor sites, respectively (Table III). Table I gives the yields in boardfeet measured by the International Rule and Table II gives the yields in boardfeet measured by the Doyle Rule. The Doyle Rule is commonly used in Louisiana but does not give the true volume of logs, especially with small logs where the values are much too low. The International Rule gives very nearly the actual amount which will be sawed out. Table III gives yields measured in cords.

TABLE I
YIELD IN BOARDFEET PER ACRE

Loblolly and Shortleaf Pines		International ¼ Inch Rule	
Age In Years	Average Yields in Boardfeet Per Acre		
	Good Site	Medium Site	Poor Site
20	8,600	3,800
25	16,000	10,200	5,600
30	21,000	15,300	10,400
35	24,200	19,100	14,300
40	26,800	22,100	17,600
45	29,000	24,700	20,200
50	31,000	26,800	22,400
55	33,000	28,700	24,300
60	34,800	30,300	25,800
65	36,500	31,700	27,000
70	38,100	33,000	28,100

Note:—Yields are based on average conditions as found on 100 sample plots scattered over the State.

Volumes include all trees 7 inches and over measured at $4\frac{1}{2}$ feet above ground.

TABLE II
YIELD IN BOARDFEET PER ACRE

Loblolly and Shortleaf Pines

Doyle Rule

Age In Years	Average Yields in Boardfeet Per Acre		
	Good Site	Medium Site	Poor Site
20	200
25	4,700	2,300	300
30	8,500	5,500	3,100
35	11,900	8,400	5,700
40	14,900	11,100	8,100
45	17,200	13,600	10,400
50	18,900	15,700	12,600
55	20,400	17,400	14,500
60	21,600	18,800	16,000
65	22,800	20,100	17,300
70	23,100	21,300	18,600

Note:—Yields are based on average conditions as found on 99 sample plots scattered over the State.

Volumes include all trees 9 inches and over measured at 4½ feet above ground.

TABLE III
YIELD IN CORDS PER ACRE

Loblolly and Shortleaf Pines

Cords

Age In Years	Average Yields in Cords Per Acre		
	Good Site	Medium Site	Poor Site
15	30	22	16
20	36	28	21
25	42	33	26
30	46	37	31
35	49	41	34
40	52	44	37
45	54	46	39
50	55	48	41
55	56	49	42
60	57	50	43
65	58	51	44
70	59	52	45

Note:—Yields are based on average conditions as found on 100 sample plots scattered over the State.

Volumes include all trees 4 inches and over measured at 4½ feet above ground.

These yields are the results of the measurement and computation of the volumes of the trees on more than 100 plots* of typical loblolly and shortleaf pine land throughout Louisiana. As they are typical stands they have been burned at frequent intervals throughout their lives, and such burning has reduced the yield. Better yields will result when the land is given complete protection from fire.

PROFITABLE PRACTICES

To secure the greatest possible return from the farm woodland certain practices are necessary.

Fire prevention is the first requirement in the successful management of farm woodlands. Fire has long been the greatest enemy of the forest and of forest growth. No manufacturer could conduct a successful business if he allowed his factory to burn every year. That is what a woods owner does when he allows fire to go through his woodland every year. His growing trees are a factory producing wood. It is not profitable to burn the factory and thus reduce the output.

To prevent fires entering the woods the owner should plow a fire line around his land. This line should be ten feet wide and should also be plowed along the roads, about 25 feet from them. Where natural fire breaks, such as running streams, exist they can be used in place of the plowed fire line.

The law protects and assists an owner in his effort to keep fires from burning his woods. If any person sets fire to the woods of another, or allows a fire he started to enter the land of another and damage it he is subject to fine or imprisonment or both. He is also liable for the damages resulting from the fire and can be sued to obtain them. The State Division of Forestry has established forest protection units in different parts of the state in which the state and federal government cooperate with the land owners in forest protection. The farmer should take advantage of this additional help wherever possible.†

Fire prevention is not the whole of forestry, but it is by all means a primary consideration. Without fire prevention no young loblolly or shortleaf pine can grow to replace those big enough to

* These plots contain varying proportions of Loblolly and Shortleaf Pines. On most of them Loblolly predominated, forming 80% or more of the stand.

† Information relative to this cooperation may be secured from the State Forester, Department of Conservation, New Orleans, La.

cut. Fire makes openings in the bark through which insects and disease enter the tree causing it to become weakened and a victim of the first severe wind storm.

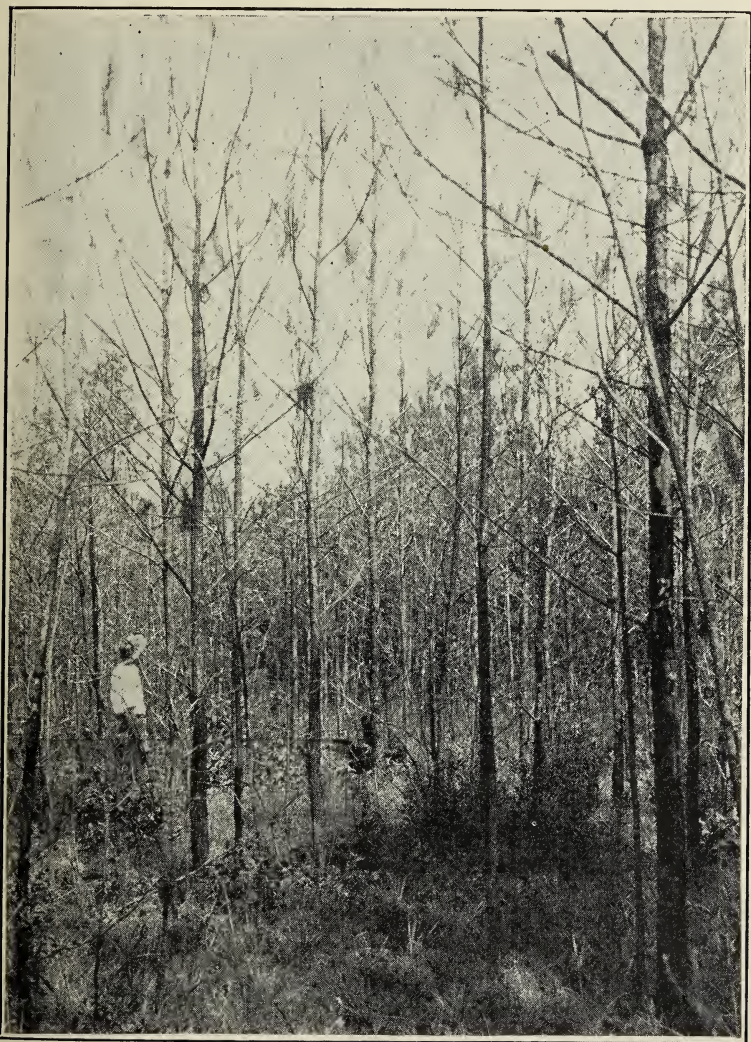


PLATE I—*Eleven Year Old Stand of Loblolly Pine in La Salle Parish Entirely Killed by Fire in August. (Photo by U. S. Forest Service)*

OBTAINING THE STAND

A good stand may be obtained either by planting the land with seedlings of the desired species, or by the natural seeding of the site from trees now on the land or adjacent to it.

Establishing a stand by planting with seedlings is seldom necessary on farm woodlands and, therefore, is not discussed in this bulletin. Where planting is required, one year old nursery grown seedlings should be used.† These can be secured at cost from the State Division of Forestry through the Extension Forester or direct from the Division of Forestry, New Orleans.

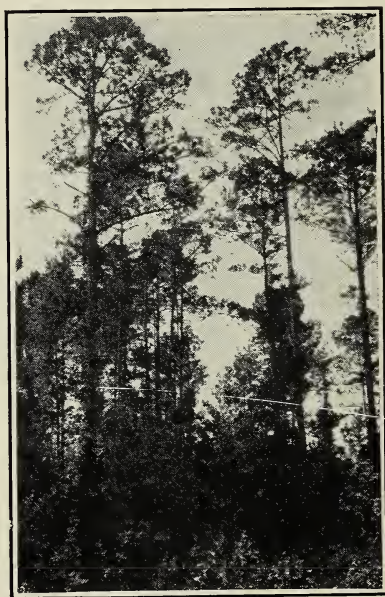


PLATE II—*Good Reproduction Three Years After Cutting as a Result of Careful Marking and Logging. De Soto Parish.*

Natural reforestation is entirely satisfactory in Louisiana and is usually recommended. The law requires that two good seed trees per acre be left on all forest land either being cut, or bled for turpentine. A seed tree is defined as "a healthy tree not less than

† "Forest Planting in Louisiana" by N. D. Canterbury, Louisiana Division of Forestry, New Orleans, La. "Planting Southern Pines" by P. C. Wakeley, Leaflet No. 32, U. S. Department of Agriculture, Washington, D. C.

ten (10) inches in diameter four and a half ($4\frac{1}{2}$) feet from the ground". It should also be a tree with a large crown and tall enough to scatter the seed well over the area. If this law has been observed, adequate stocking of small seedlings should result within a year or two.

To be adequately stocked the land should have at least 1000 to 1500 (preferably more) seedlings per acre. Most of the land will have more seedlings than this. The young trees will compete with each other for room to grow, and the faster growing ones will win. The others will die and decay thus adding fertilizer to the soil and aiding the growth of the remaining trees.

Grow some sawlogs. Every farmer needs some lumber to repair his buildings and to construct new ones. He should grow the timber himself and have it cut at a local mill. The mill owner will be glad to saw the logs at a fair price per thousand, cutting the sizes wanted. Help to make every farm more nearly self supporting by producing lumber for home use.

When the stand is from three to six inches in diameter, cut out the dead trees, the dying trees, and some of those that seem to be falling behind. Cut also the hardwoods and those pines that are crooked and diseased. In that way the growth of the stand is speeded up, and the farmer reaps an immediate return from the sale of the material he cuts. This will be almost entirely of pulpwood size with some posts and fuelwood.

TREES TO CUT FOR FIREWOOD

Crooked Trees
 Forked Trees
 Diseased Trees
 Bushy-Topped Trees
 Slow Growing Trees

Continue the thinnings as often as the stand becomes crowded. Under favorable conditions they can be repeated every five to ten years. When the trees reach a diameter of 14 inches and over, they are of sufficient size to be profitably cut and sold for saw

logs. By that time the stand will contain from 150 to 200 trees per acre. Then cut your timber, obtaining the best price possible, and leave seed trees for the next crop.

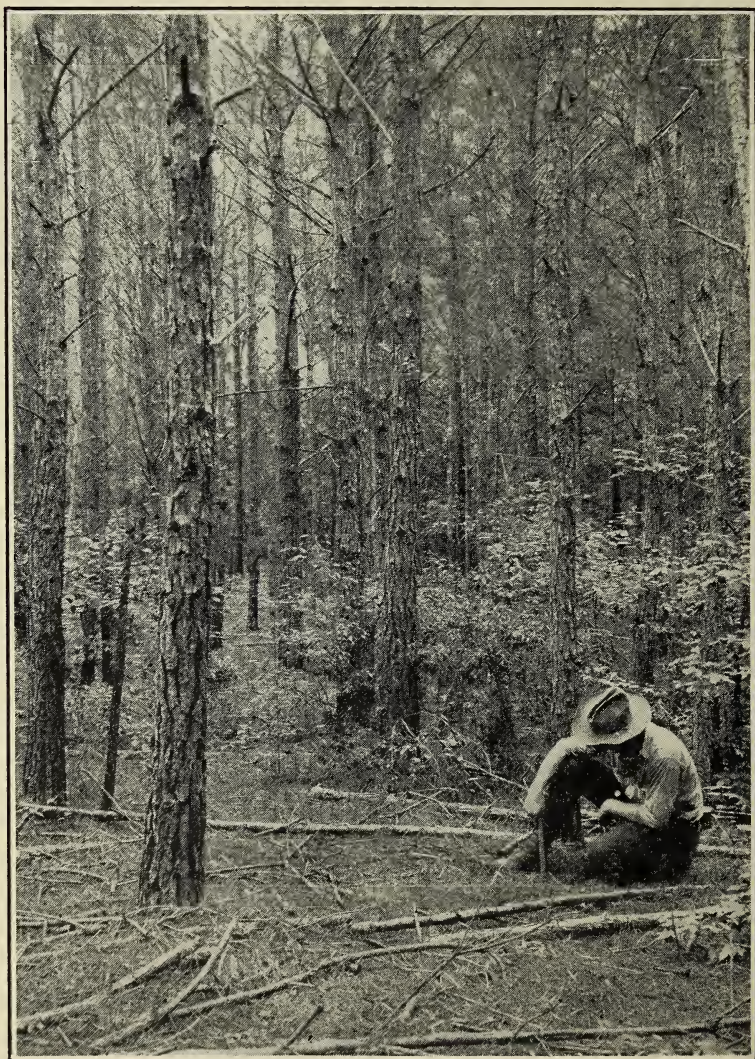


PLATE III—*Twenty-one Year Old Stand of Loblolly Pine in Need of Thinning. Caldwell Parish. (Photo by U. S. Forest Service).*

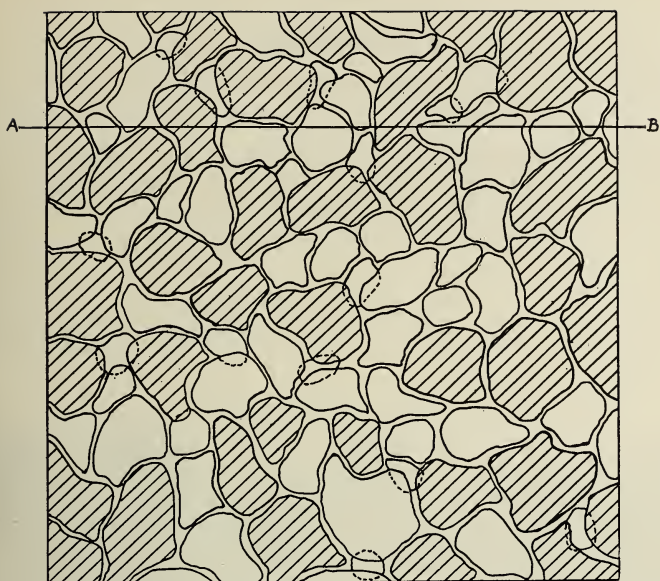


FIGURE II—*Thirty-five Year Old Loblolly Pine Stand in Need of Thinning. Shaded Trees to be Removed in the Thinning.*



FIGURE III—*Same Stand as in Figure II Showing Cross Section at Line AB. Trees to be Removed are Marked.*

MARKETING

Marketing is very largely a matter of obtaining the best possible price for saleable material. Local prices are governed entirely by economic conditions such as the supply of timber available and the distance from the market. Some concerns are at present buying the farmer's timber at their plants for less than they can cut and deliver their own timber. As a result their timber is being kept to help them over the shortage that is surely coming and the farmer is ruining his woodland by indiscriminate and thoughtless cutting. When the era of higher prices arrives, the farmer will have little or no timber left to sell.



PLATE IV—*Products of the Farm Woodland. Natchitoches Parish.*

In selling timber there are six points to be remembered:

1. Mark carefully the trees that should be cut.
2. Obtain from different buyers the prices paid for this class of material and their specifications.
3. Decide which market will give the largest profit.
4. Have a written agreement with the buyer.
5. Cut and haul your own timber.
6. Insist that a fair rule be used to measure your timber.

There is no profit in cutting small trees for sawlogs. For instance, it costs \$2.07 to fell 1000 boardfeet of timber from 8 inch trees, while it only costs \$1.40 to fell 1000 boardfeet from trees

KEEP SMALL TREES FOR A CONTINUOUS INCOME

Morehouse Parish Farmer Sells No Trees Under
8 Inches From His 83 Acre Woodland

For The Timber Sold

In 1912 He Received	-	-	-	-	\$ 700
In 1927 He Received	-	-	-	-	\$1,600

Today he still has a good stand of young trees.

12 inches in diameter.* In addition the expense of hauling small logs is higher, and the price paid is smaller. Logs are purchased on grade, and as a rule the smaller logs are of lower grade. There



PLATE V—*Eighteen Year Old Shortleaf Pine Stand Following Cutting For Pulpwood. Twenty Cords Were Removed Per Acre. Good Stand of Small Trees Left. Ouachita Parish. (Photo by U. S. Forest Service)*

* "Profit or Loss in Cutting Shortleaf and Loblolly Pines in Alabama"—Page 46, Table No. 22, Bulletin No. 2, Alabama Commission of Forestry, Montgomery, Alabama.

can be little profit if labor costs eat up most of the price received for the timber.

In marketing the farmer should find out which market offers the best return for his timber as the margin between profit and loss is often very small. A frequent mistake is the failure to realize that different sized logs require different markets. As a rule pulpwood cannot be profitably cut from large trees as the expense of splitting is entirely too great.

CORDWOOD FROM LARGE TREES DOES NOT PAY

Morehouse Parish Farmer Sold All Trees For
Pulpwood

Included were many large trees
One Tree Measured 23 Inches At The Stump
And 90 Feet High

As Pulpwood It Cut	-	-	-	-	1 Cord
Stumpage Value at \$.50 per cord	-	-	-	-	\$.50
As Lumber It Scaled	-	-	-	-	435 Bd. Ft.
Stumpage Value at \$4.00 per M	-	-	-	-	\$1.75
Loss When Sold For Cordwood	-	-	-	-	\$1.25

It pays the farmer to cut and haul his own timber. The cotton farmer picks his own cotton and hauls it to the gin. He should use the same labor, cut his own timber and haul it, using the same teams or trucks. By so doing he can profitably employ labor and teams that would otherwise be idle.

Use the whole tree. Frequently several cords of valuable wood are left to rot on the ground due to carelessness. The cost of cutting it into posts or cordwood is not great and the yield from tim-

berland can be increased by careful supervision of the cutters. Estimates show that about 30% of the wood that grows is left in the woods. By reducing this percentage, the farmer can often obtain a profit rather than a loss.

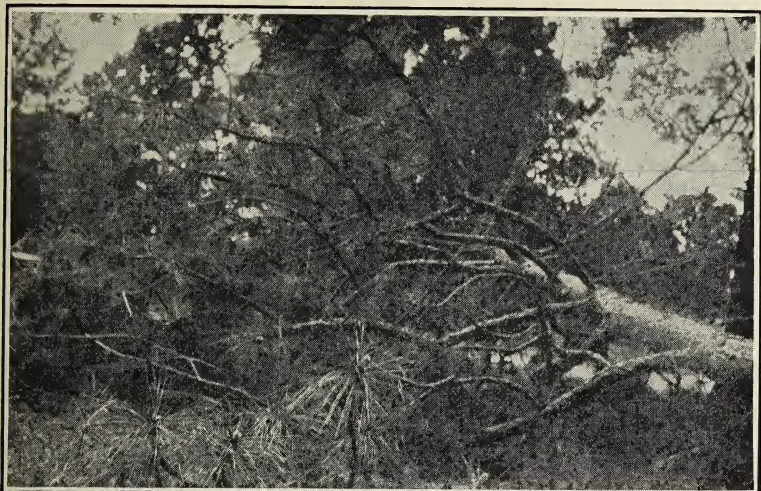


PLATE VI—*Poor Utilization. Much Good Lumber Left in Stump and Top. Rapides Parish.*

USE THE ENTIRE TREE

Natchitoches Parish Farmer Cut Trees For
Posts

From Six Trees

He Sold	-	-	-	-	-	-	10 Posts
He Left In The Tops and Stumps	-	-					14 Posts

DOES POOR UTILIZATION PAY?

SUMMARY

1. Louisiana farmers own over three million acres of potential forest land. Most of it is poorly handled but could, with proper care, yield a continuous income and in addition supply the farmer with all the fuel and timber he needs.
2. The loblolly and shortleaf pines, because of their usefulness and rapid growth, offer excellent opportunities to the farmer for timber growing.
3. Fires should be kept out of the forests at all times.
4. Natural reforestation is recommended for with proper handling artificial methods are not often necessary.
5. When cutting, leave at least two loblolly or shortleaf pine trees per acre as seed trees for the future stand. These trees should have good crowns and be 10 inches or over in diameter at $4\frac{1}{2}$ feet from the ground.
6. Sawlogs should be the final aim of the farmer. Pulpwood, posts, and fuelwood can be secured from thinnings which should be made as often as the stand becomes crowded.
7. In marketing timber, mark those trees which should be cut and secure the best market possible for this material.
8. The farmer should cut and haul the timber himself when his labor and teams are not otherwise employed.
9. Utilize the entire tree.
10. When in doubt as to what to do, write the Extension Forester, Louisiana State University, Baton Rouge, or the State Forester, New Orleans, Louisiana.

REFERENCES

1. Loblolly Pine Primer—W. R. Mattoon, U. S. Dept. of Agric.—Farmers Bulletin 1486.
2. Shortleaf Pine Primer—W. R. Mattoon—Farmers Bulletin 1534.
3. Shortleaf Pine, Its Economic Importance and Forest Management—W. R. Mattoon, U. S. Dept. of Agric.—Departmental Bulletin No. 308.
4. Slash Pine—W. R. Mattoon, U. S. Dept. of Agric.—Farmers Bulletin 1256.
5. Longleaf Pine Primer—W. R. Mattoon, U. S. Dept. of Agric.—Farmers Bulletin 1486.
6. Farm Woodland Conference—11th Southern Forestry Congress—Reprints of Papers Delivered—Louisiana State University—Louisiana Division of Forestry—1929.

